

housing further includes at least one battery.

6. (Amended) The tire pressure monitoring device of claim ~~27~~ wherein said flexible membrane is a conductive substance.

16 ~~12~~. (Twice Amended) The tire pressure monitoring device of claim ~~27~~ further including a conductive seal provided between said lens and said main body.

11 ~~13~~. (Twice Amended) The tire pressure monitoring device of claim ~~27~~ wherein said power supply is at least one battery.

~~17~~ 14. (Twice Amended) The tire pressure monitoring device of claim ~~27~~ wherein said signaling means is selected from the group consisting of a light emitting diode (LED), a speaker, a radio frequency (RF) transmitter, and a infrared (IR) transmitter.

~~18~~ 15. (Amended) The tire pressure monitoring device of claim ~~27~~ wherein said flexible membrane is a conductive substance.

~~27~~ 17. (Twice Amended) A tire pressure monitoring device attachable to a tire valve for monitoring tire pressure, said tire pressure monitoring device comprising:

a housing including a means for calibrating said pressure monitoring device with air from a tire, a means for sensing a pressure differential, and a means for signaling said pressure differential.

~~14~~ 18. (Amended) A method of monitoring air pressure within a tire, said method comprising:

providing a tire pressure monitoring device of claim ~~27~~;
attaching said tire pressure monitoring device to a tire valve;
calibrating said tire pressure monitoring device with air pressure from the tire;

monitoring a pressure differential between said tire pressure monitoring device and an air pressure of said tire; and

emitting a warning signal when said pressure differential exceeds a predetermined pressure differential.

~~27~~ 24. (Amended) A valve cap having an interior air pressure supplied through a conventional tire valve, said valve cap comprising:

a transparent top;

BD

a light emitting diode (LED) attached to a printed circuit board;
an upper housing coupled to a lower housing, the upper housing which accommodates the LED, the printed circuit board, and a flexible membrane;
a counter-pressure chamber, wherein the counter-pressure chamber is a space between the transparent top and the flexible membrane;
a main pressure chamber, wherein the main pressure chamber is a space between the flexible membrane and the lower housing,
the counter-pressure chamber having a first open mode wherein the counter-pressure chamber is in atmospheric communication with the main pressure chamber, and the counter-pressure chamber having a second closed mode wherein the counter-pressure chamber is sealed from the main pressure chamber;
at least one battery located within the upper housing; and
the lower housing which is internally threaded to mate with a tire valve assembly.

Please add **NEW** claims 27-32 as follows:

BD

27. (New) A tire pressure monitoring device for monitoring tire pressure, said monitoring device comprising:

a housing having a first pressure chamber, a second pressure chamber, and a flexible membrane, wherein said first and second pressure chambers are separated by a flexible membrane, wherein the first pressure chamber is calibrated with air from a tire; and

a signaling means for emitting a warning signal when a pressure within the first pressure chamber is greater than a pressure within the second pressure chamber; wherein the housing is adapted to be mounted onto a tire stem.

2428. (New) A tire pressure monitoring device for monitoring tire pressure, said monitoring device comprising:

a housing having a first pressure chamber in communication with a second pressure chamber, wherein the first pressure chamber having a first open mode wherein the first pressure chamber is in atmospheric communication with the second

pressure chamber, and the first pressure chamber having a second closed mode wherein the first pressure chamber is sealed from the second pressure chamber; and a flexible membrane positioned between the first pressure chamber and the second pressure chamber.

1
20. (New) The tire pressure monitoring device of claim *21* wherein said housing includes threads for mounting said tire pressure monitoring device onto a tire system.

21
21. (New) The tire pressure monitoring device of claim *10* wherein said lower housing body includes threads for mounting said tire pressure monitoring device onto the tire valve.

21
22. (New) A tire pressure monitoring device comprising:
means for mounting the device onto a tire stem;
means for calibrating the device to air pressure in the tire at an initial point in time with air from within the tire;
means for indicating at a subsequent point in time that air pressure in the tire has decreased beyond a pre-determined pressure difference, as compared to the pressure in the tire at said initial point in time.

21
23. (New) A tire pressure monitoring device comprising:
a housing having a first pressure chamber in communication with a second pressure chamber, wherein the first pressure chamber having a first open mode wherein the first pressure chamber is in atmospheric communication with the second pressure chamber, and the first pressure chamber having a second closed mode wherein the first pressure chamber is sealed from the second pressure chamber; and a flexible membrane positioned between the first pressure chamber and the second pressure chamber; and
a signaling means for emitting a warning signal when a pressure within the first pressure chamber is greater than a pressure within the second pressure chamber; wherein the housing is adapted to be mounted onto a tire stem.